Appl.No. 10/713,691
Preliminary Amdt. dated January 27, 2005

Amendments to the Claims:

This listing of claims will replace all prior versions,
and listings, of claims in the application:

Listing of Claims:

Claim 1 (original). Apparatus for analyzing an audio
signal with regard to rhythm information of the audio
signal by using an autocorrelation function, comprising:

means for dividing the audio signal into at least two sub-
band signals;

means for examining at least one sub-band signal with
regard to a periodicity in the at least one sub-band
signal by an autocorrelation function, to obtain rhythm
raw-information for the sub-band signal, wherein a delay
is associated to a peak of the autocorrelation function;

means for postprocessing the rhythm raw-information for
the sub-band signaldetermined by the autocorrelation
function, to obtain postprocessed rhythm raw-information
for the sub-band signal, so that in the postprocessed
rhythm raw-information an ambiguity in an integer
plurality of a delay, to which an autocorrelation function
peak is associated, is reduced, or a signal portion is
added at an integer fraction of a delay, to which an
autocorrelation function peak is associated; and

means for establishing the rhythm information of the audio
signal by using the postprocessed rhythm raw-information
of the sub-band signal and by using another sub-band
signal of the at least two sub-band signals.

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Claim 2 (currently amended). Apparatus according to claim
1, wherein the means for ~~postprocessingcomprises~~
postprocessing comprises:

means for calculating a version of the rhythm raw-
information of a sub-band signal spread by an integer
factor; and

means for subtracting the version of the rhythm raw-
information of the sub-band signal spread by an integer
factor larger than one, or a version of the rhythm raw-
information of the sub-band signal derived from this
version, to obtain the postprocessed rhythm raw-
information for the sub-band signal.

Claim 3 (original). Apparatus according to claim 2,
wherein means for subtracting is disposed to perform,
prior to subtracting, a weighting of the spread version
with a factor between zero and one, to generate the
derived version.

Claim 4 (original). Apparatus according to claim 1,
wherein means for postprocessing comprises:

means for calculating a version of the rhythm raw-
information compressed by an integer factor larger than
one; and

means for adding the compressed version of the rhythm raw-
information of the sub-band signal or a version derived
therefrom to the rhythm raw-information of the sub-band
signal, to obtain the postprocessed rhythm raw-information
for the sub-band signal.

Claim 5 (original). Apparatus according to claim 4,
wherein the means for adding is disposed to perform, prior
to adding, a weighting of the compressed version of the

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rhythm raw-information by a factor between zero and one,
such that a weighted compressed version of the rhythm raw-
information is added to the rhythm raw-information of the
sub-band signal to generate the derived version.

Claim 6 (original).   Apparatus according to claim 1,
further comprising:

means for evaluating a quality of the periodicity of the
postprocessed rhythm raw-information, to obtain a
significance measure for the sub-band signal,

wherein means for establishing is further disposed to
establish the rhythm information of the audio signal by
considering the significance measure of the sub-band
signal.

Claim 7 (original).   Method for analyzing an audio signal
with regard to rhythm information of the audio signal by
using an autocorrelation function, comprising:

dividing the audio signal into at least two sub-band
signals,

examining at least one sub-band signal with regard to a
periodicity in the at least one sub-band signal by an
autocorrelation function, to obtain rhythm raw-information
for the sub-band signal, wherein a delay is associated to
a peak of the autocorrelation function;

postprocessing the rhythm raw-information for the sub-band
signal determined by the autocorrelation function, to
obtain postprocessed rhythm raw-information for the sub-
band signal, so that in the postprocessed rhythm raw-
information an ambiguity in the integer plurality of a
delay, to which an autocorrelation function peak is
associated, is reduced, or a signal portion is added at an

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integer fraction of a delay, to which an autocorrelation function peak is associated; and.

establishing the rhythm information of the audio signal by using the postprocessed rhythm raw-information of the sub-band signal and by using a further sub-band signal of the at least two sub-band signals.

Claim 8 (currently amended). Apparatus for analyzing an audio signal with regard to rhythm information of the audio signal by using an autocorrelation function, comprising:

means for examining the audio signal with regard to a periodicity in the audio signal, to obtain rhythm raw-information for the audio signal, wherein a delay is associated to a peak of the autocorrelation function;

means for postprocessing the rhythm raw-information for the audio signal determined by the autocorrelation function, to obtain postprocessed rhythm raw-information for the audio signal by adding a version of the rhythm raw information forged by an integer factor, so that in the postprocessed rhythm raw-information a signal portion is added at an integer fraction of a delay, to which an autocorrelation function peak is associated; and

means for establishing rhythm information of the audio signal by using the postprocessed rhythm raw-information of the audio signal.

Claim 9 (original). Apparatus for analyzing an audio signal with regard to rhythm information of the audio signal by using an autocorrelation function, comprising:

means for examining the audio signal with regard to a periodicity in the audio signal, to obtain rhythm raw-

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information for the audio signal, wherein a delay is
associated to a peak of the autocorrelation function;

means for postprocessing the rhythm raw-information for
the audio signal determined by the autocorrelation
function, to obtain postprocessed rhythm raw-information
for the audio signal, by subtracting a version of the
rhythm raw-information weighted by a factor unequal one
and spread by an integer factor larger than one; and

means for establishing the rhythm information of the audio
signal by using the postprocessed rhythm raw-information
of the audio signal.

Claim 10 (currently amended). Method for analyzing an
audio signal with regard to rhythm information of the
audio signal by using an autocorrelation function,
comprising:

examining the audio signal with regard to a periodicity in
the audio signal, to obtain rhythm raw-information for the
audio signal, wherein a delay is associated to a peak of
the autocorrelation function;

postprocessing the rhythm raw-information for the audio
signal by the autocorrelation function, to obtain
postprocessed rhythm raw-information for the audio signal
by adding a version of the rhythm raw information forged
by an integer factor, so that in the postprocessed rhythm
raw-information a signal portion is added at an integer
fraction of a delay, to which an autocorrelation function
peak is associated; and

establishing the rhythm information of the audio signal by
using the postprocessed rhythm raw-information of the
audio signal.

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Claim 11 (original). Method for analyzing an audio signal
with regard to rhythm information of the audio signal by
using an autocorrelation function, comprising:

examining the audio signal with regard to a periodicity in
the audio signal, to obtain rhythm raw-information for the
audio signal, wherein a delay is associated to a peak of
the autocorrelation function;

postprocessing the rhythm raw-information for the audio
signal determined by the autocorrelation function, to
obtain postprocessed rhythm raw-information for the audio
signal, by subtracting a version of the rhythm raw-
information weighted with a factor unequal one and spread
by an integer factor larger than one; and

establishing the rhythm information of the audio signal by
using the postprocessed rhythm raw-information of the
audio signal.